Types of Energy/ Waves WKST
Mr. Tima 2009

NAME: KEY

3.

1. What are the 4 Main types of energy and what is one key description of each?

1. KINETIC + POTENTIAL (MOVING + STORED ENERGY)

2. THERMAL ENERGY (HEAT ENERGY - TRANS FROM WARM TO COOL)

3. SOUND - CAUSED BY VIBRATIONS IN A MEDI

4. LIGHT - DOES NOT REQ A MEDIUM

2. What is the main way energy is carried?

THROUGH WAVES

3. What is the Law of Conservation of Energy?

ENERGY CANNOT BE CREATED OR DESTROYED ONLY TRANSFORMED

4. What is a Medium?

ANYTHING A WAVE CAN PASS THROUGH THAT IS NOT A MEDIUM

a. Give a real life example in our everyday world.

AIR, WATER, A DOOR, A METAL SLINKY

b. What effect does a medium have on the speed of a wave?

↑ SPEED - DENSER MEDIUM

↓ SPEED - LESS DENSE MEDIUM

REMEMBER THIS BECAUSE OF HOW TIGHTLY PAR ARE PACKE TOGETH

c. What effect does a medium have on the energy of a wave?

AS SPEED ↑, NRG ↑ SO IF THE DENSITY OF THE MEDIUM ↑ THEN NRG ↑ BECAUSE SPEED ↑ [AND VICE VERS

Identify any and all types of energies being seen and/or in action in the following situations (will be more than one in most instances):

ANSWERS WILL VARY

5. A musician plucking a guitar string.

CHEMICAL POTENTIAL → KINETIC → THERMAL → SOUND

6. A football player making a tackle.

CHEMICAL POTENTIAL → KINETIC FROM TACKLER → KINETIC TO TACKLED

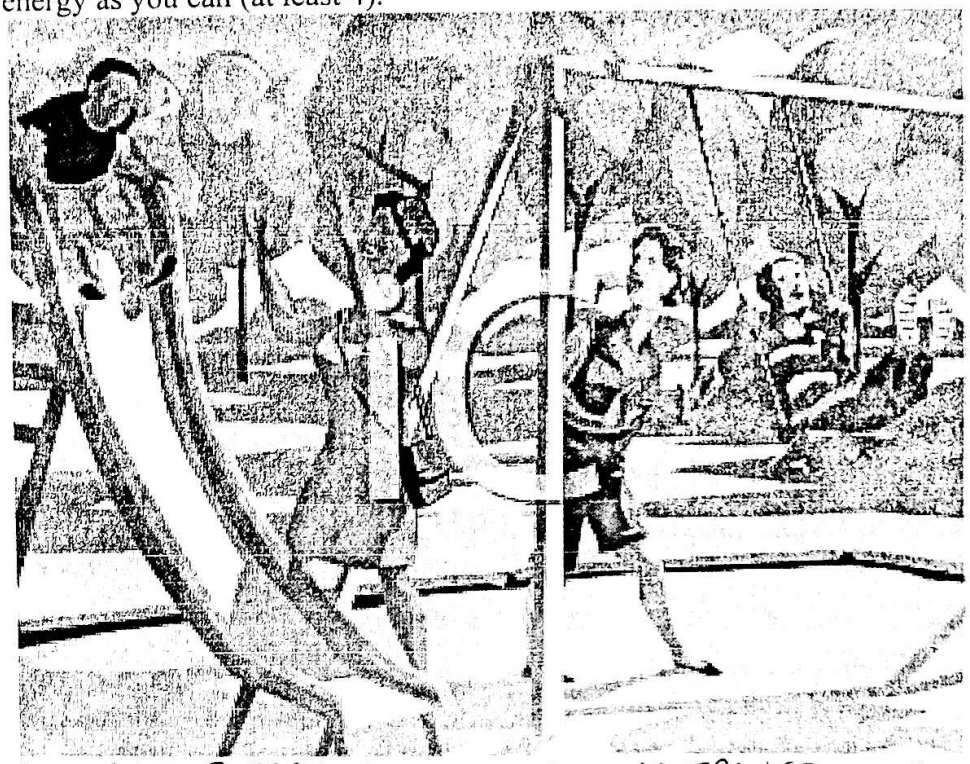
7. A little kid holding his ice-cream cone in their hand on a hot day.

LIGHT ENERGY (RADIATION) → THERMAL ENERGY

8. A lady lying in the sun getting a suntan.

LIGHT ENERGY (RADIATION) → THERMAL ENERGY

9. Look at the whole picture below; identify as many uses/ proof of the transfer of energy as you can (at least 4).



ANSWERS WILL VARY

A. LIGHT ENERGY FROM THE SUN IS TRANSFORMED INTO THERMAL ENERGY WHEN IT HITS THE PEOPLE / THE SLIDE
B. KID AT THE TOP OF THE SLIDE HAS LOTS OF PE - IT IS CONVERTED TO KE AS HE MOVES DOWN THE SLIDE
C. AS KID MOVES DOWN THE SLIDE HIS KE IS TRANSFORM INTO THERMAL ENERGY BECAUSE OF FRICTION
D. MOM PUSHING HER SON - TRANSFER OF KINETIC ENERGY

WAVES:

10. What are the two main categories of waves?

1. MECHANICAL 2. ELECTROMAGNETIC

a. Which requires a medium?

MECHANICAL

11. What is the resting/ equilibrium position for a wave (describe and draw)?

NO MOVEMENT / NO WAVE / EQUILIBRIUM POSITION

12. What is a Longitudinal Wave (describe and draw)?

SLINKY WAVE

PULSE →

PULSE MOVES PARALLEL TO DISTURBANCE

13. What is a transverse wave (describe and draw)?

PULSE →

PULSE MOVES PERPENDICULAR TO DISTURBANCE